

REMARKS

As a preliminary matter, Applicants respectfully request entry of this after-final amendment because Applicants believe that no new issues are raised by the proposed claim amendments. Specifically, the subject matter of (now cancelled) dependent Claim 4 has been added to independent Claim 1 and the subject matter of (now cancelled) dependent Claim 11 has been added to independent Claim 8. Additionally, independent Claim 16 has been amended in a similar manner as Claim 1. Applicants respectfully submit that no new issues are raised by these proposed claim amendments because the subject matter of the amended claims was already considered when examining dependent Claims 4 and 11. Accordingly, Applicants respectfully submit that entry of this after-final amendment is proper, and such entry is respectfully requested.

Claims 17 and 18 have been objected to as being of improper dependent form. In response, Applicants have cancelled Claims 17 and 18, without prejudice, thereby rendering this objection moot.

Claims 1, 2, 8 and 9 stand rejected under 35 U.S.C. §102(b) as being anticipated by United States Patent No. 5,772,857 to Zhang. Applicants respectfully traverse this rejection.

Applicants respectfully submit that the Zhang reference fails to disclose all of the features of the present invention. In particular, the Zhang reference fails to disclose a magnetic recording medium, or a method of producing a magnetic recording medium, that includes the claimed first and second underlayers originally defined in now-cancelled

dependent Claims 4 and 11, which are now incorporated into independent Claims 1 and 8. In the Final Office Action, the Examiner did not rely on the Zhang reference for these features, but instead relied upon the Malhotra et al. reference for the first and second underlayers and the Bian et al. reference for modifying the underlayers. A discussion of Malhotra et al. reference and Bian et al. is included below, in the section responding to the §103 rejection that includes the Malhotra et al. and the Bian et al. references. Thus, as all of the features of amended independent Claims 1 and 8 are not disclosed in the Zhang reference, Applicants respectfully request the withdrawal of this §102(b) rejection of independent Claims 1 and 8, and associated dependent Claims 2 and 9.

Claims 1, 2, 8, 9 and 16 stand rejected under 35 U.S.C. §102(e) as being anticipated by United States Patent No. 5,772,857 to Matsuda et al. Applicants respectfully traverse this rejection.

Applicants respectfully submit that the Matsuda et al. reference fails to disclose all of the features of the present invention. In particular, the Matsuda et al. reference fails to disclose a magnetic recording medium, or a method of producing a magnetic recording medium, that includes the claimed first and second underlayers originally defined in now-cancelled dependent Claims 4 and 11, which are now incorporated into independent Claims 1 and 8 (as correctly acknowledged by the Examiner in paragraphs 33 and 36 of the Final Office Action). In the Final Office Action, the Examiner did not rely on the Matsuda et al. reference for these features, but instead relied upon the Malhotra et al. reference for the first and second underlayers (*see* paragraphs 34 and 35 of the Final Office Action) and the Bian et

al. reference for modifying the underlayers (*see* paragraphs 37 and 38 of the Final Office Action). A discussion of Malhotra et al. and Bian et al. is included below, in the section responding to the §103 rejection that includes the Malhotra et al. and the Bian et al. references. Thus, as all of the features of amended independent Claims 1 and 8 are not disclosed in the Matsuda et al. reference, Applicants respectfully request the withdrawal of this §102(e) rejection of independent Claims 1, 8, and 16, and associated dependent Claims 2 and 9.

Claims 3 and 10 stand rejected under 35 U.S.C. §103 as being unpatentable over Matsuda et al. Claims 7 and 15 stand rejected under 35 U.S.C. §103 as being unpatentable over Matsuda et al. in view of the IEEE article to Paik et al. Claims 4, 5, 11, 12, 17, and 18 stand rejected under 35 U.S.C. §103 as being unpatentable over Matsuda et al. in view of Malhotra et al. and further in view of United States Patent No. 5,789,056 to Bian et al. Applicants have cancelled Claims 4 and 11, without prejudice, and have added the subject matter of these claims to their associated independent claims (Claims 1 and 8). Accordingly, with regard to Claims 4 and 11, these rejections are moot. However, Applicants will respond to all of these rejections as though they applied to amended independent Claims 1, 8 and 16.

Applicants respectfully submit that the cited references, alone or in combination, fail to disclose or suggest all of the features of the present invention. In particular, the cited references, either alone or in combination, fail to disclose or suggest the claimed magnetic recording medium, or method of producing such a medium, as defined in

independent Claims 1, 8 and 16, that includes, *inter alia*, first and second underlayers in which the second underlayer has “a larger sum total content of elements other than Cr” than the first underlayer.

As correctly acknowledged by the Examiner in paragraph 33 of the Final Office Action, the Matsuda et al. reference fails to disclose or suggest first and second underlayers. Accordingly, the Examiner relied upon Malhotra et al. for this feature (*see* paragraph 34 and 35 of the Final Office Action). Further, as also correctly acknowledged by the Examiner, the combination of Matsuda et al. and Malhotra et al. lacked a teaching that the second underlayer contains a larger sum total content of elements other than Cr than the first underlayer (*see* paragraph 36 of the Final Office Action). Accordingly, the Examiner relied upon Bian et al. for this feature (*see* paragraphs 37 and 38 of the Final Office Action).

Applicants respectfully submit that one of ordinary skill in the art would not have found it obvious to have modified the combination of Matsuda et al. and Malhotra et al. in light of Bian et al. in the manner suggested by the Examiner. Initially, Applicants respectfully submit that both the Malhotra et al. reference and the Bian et al. reference relate to recording media having a single magnetic layer, and fail to teach or suggest a magnetic recording medium having a magnetic layer with a multi-layer structure and an underlayer with a multi-layer structure, as defined in independent Claims 1, 8 and 16.

Additionally, Applicants respectfully submit that the Bian et al. reference actually teaches away from the claimed first and second underlayers in which the second underlayer has a larger sum total content of elements other than Cr than the first underlayer.

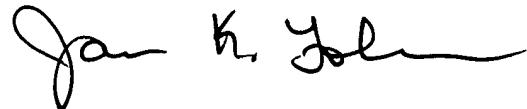
More specifically, column 4, lines 1-7 of Bian et al. discuss that the “underlayer” (which the Examiner has equated with the claimed second underlayer) should have less Ti than that found in the “seed layer” (which the Examiner has equated with the claimed first underlayer) in order to optimize the lattice parameter matching. In other words, the Bian et al. reference teaches that the second underlayer has a *smaller* sum total content of Ti (which is the only element other than Cr) than the first underlayer (referred to in Bian et al. as the seed layer) in order to optimize the lattice matching. Thus, the Bian et al. reference teaches the opposite relative amounts of elements other than Cr than that defined in independent Claims 1, 8 and 16. Accordingly, Applicants respectfully submit that one of ordinary skill in the art would not have been motivated to modify the proposed combination of Matsuda et al. and Malhotra et al. in view of Bian et al. in the manner suggested by the Examiner because the Bian et al. reference teaches exactly the opposite relative amounts of elements other than Cr for the first and second underlayers than the relative amounts defined in independent Claims 1, 8 and 16. Accordingly, Applicants respectfully request the withdrawal of these rejections of independent Claims 1, 8 and 16 and their associated dependent claims.

For all of the above reasons, Applicants request reconsideration and allowance of the claimed invention. Should the Examiner be of the opinion that a telephone conference

would aid in the prosecution of the application, or that outstanding issues exist, the Examiner
is invited to contact the undersigned.

Respectfully submitted,

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